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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,837	11/19/2003	Katsuyuki Moritsugi	MINB-02016/A-3078	3620

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EXAMINER

ROJAS, BERNARD

ART UNIT PAPER NUMBER

2832

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/715,837

Applicant(s)

MORITSUGI, KATSUYUKI

Examiner

Bernard Rojas

Art Unit

2832

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 2 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-6 and 8-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/19/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Embodiment 1 – Claims 1, 3-6 and 8-10 in the reply filed on 09/30/05 is acknowledged.

Claims 2 and 7 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 09/30/05.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 6 and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Masuda et al. [US 4,267,499].

Claim 6, Masuda et al. discloses a rotary solenoid comprising: a rotor [30], which has a center axis, wherein the rotor includes at least two permanent magnetic [22, 23, 27, 28] polar axes at predetermined angular locations; a stator [10] that is located about the rotor, wherein the stator includes electromagnetic poles [11, 12, 17 and 18], each of which has a polar axes, and the number of the electromagnetic poles on the stator matches the number of permanent magnetic polar axes on the rotor [figure 1], wherein the polar axes of the electromagnetic poles are positioned about the axis of the rotor at

predetermined angular locations, and the rotor is driven in a predetermined angular range by magnetic fields created by the electromagnetic poles and by permanent magnetic fields of the rotor, wherein the angular locations of the permanent magnetic polar axes and the angular locations of the polar axes of the electromagnetic poles are mismatched such that there is no position of the rotor at which the permanent magnetic polar axes of the rotor are radially aligned with the polar axes of the electromagnetic poles [figure 1].

Claim 8, Masuda et al. discloses that the polar axes of the electromagnetic poles of the stator are uniformly distributed about the axis of the rotor, and the permanent magnetic polar axes are non-uniformly distributed about the axis of the rotor [figure 1].

Claim 9, Masuda et al. discloses that the polar axes of the electromagnetic poles are separated from one another by equal angular intervals, and the permanent magnetic polar axes are separated from one another by unequal angular intervals [figure 1].

Claim 10, Masuda et al. discloses that the distribution of the permanent magnetic polar axes on the rotor is asymmetrical [figure 1].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al. [US 4,267,499] in view of Fiorenza [US 5,038,064].

Claim 1, Masuda et al. discloses a rotary solenoid comprising: a rotor [30], which has a center axis, wherein at least two permanent magnets [22, 23, 27, 28] are located on the rotor, and polar axes of the permanent magnets are positioned about the center axis at predetermined angular locations [figure 1]; a stator [10] that is located about the rotor, wherein the stator includes pole parts [11, 12, 17 and 18], the number of which matches the number of permanent magnets, and a coil [13, 14] is wrapped about certain pole parts, wherein polar axes of the pole parts are positioned about the center axis at predetermined angular locations [figure 1], and the rotor is driven in a predetermined angular range by magnetic fields induced by induction currents in the coils and by magnetic fields of the permanent magnets, wherein the angular locations of the permanent magnets and the angular locations of the pole parts are mismatched such that there is no position of the rotor at which the polar axes of the permanent magnets are radially aligned with the polar axes of the pole parts [figure 1].

Masuda et al. fails to disclose that a coil is wrapped about each pole part.

Fiorenza teaches a rotary solenoid with two magnets [26, 28], two pole pieces [14, 16] and two coils [34,36], wherein each pole piece has a coil wrapped around it.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide every pole piece in the rotary solenoid of Masuda et al. with a coil as taught by Fiorenza in order to increase the torque on the rotor.

Claim 3, Masuda et al. discloses that the polar axes of the pole parts are uniformly distributed about the axis of the rotor, and the polar axes of the permanent magnets are non-uniformly distributed about the axis of the rotor [figure 1].

Claim 4, Masuda et al. discloses that the polar axes of the pole parts are separated from one another by equal angular intervals, and the polar axes of the permanent magnets are separated from one another by unequal angular intervals [figure 1].

Claim 5, Masuda et al. discloses that the distribution of the permanent magnets on the rotor is imbalanced [figure 1].

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Rojas whose telephone number is (571) 272-1998. The examiner can normally be reached on M-F 8-4:00), every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2832

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Barclay R. Ravi
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